Task 3.6
NTAG Inputs
to
Logo Program

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Purpose

- To provide information on task 3.6 *NTAG Inputs to Logo Program*

Outline

- Background
- Presentation of recommendations to Microsoft
- Current Status

Background

- Coordinated and submitted NTAG input to Logo Program
  - September 98 for version 3d of Logo Handbook
  - January 99 to June 99 for Application Specification for Windows 2000
- Developed comparison matrix for:
  - Logo Handbook and DII COE I&RTS
  - Application Specifications and DII COE I&RTS
- Comparison matrix coordinated with NTAG, DISA and Microsoft

Appendix B I&RTS, version 4.0	I&RTS v4.0 Requirement from Chapter 6	Logo Requirement
Security		
7-1 The segment does not place any temporary files in the system maintained temporary directory that are sensitive to alteration, deletion, or disclosure to unauthorized users.		
8-1 Entry to and exit from the command-line mode causes an entry into the system audit logs that specifies the date, time, and user involved.		
Standards Compliance		
5-24 (NT) Except COTS, segment top level registry keys are named with the segment prefix.	Top level keys created by a segment shall follow one of the two formats below: SegPrefix-Title Or SegPrefix	
		Logo handbook v3.0c The application must be an OLE container or object server. Note that although an application can be both a server and a container, it does not have to be. Tip: If you want to host Java™ or ActiveX controls in your application, you sh

Background (con’t)

- DISA and NTAG presented recommendations to Microsoft on 25 June 99

Defense Information Systems Agency (DISA) Recommendations for Application Specifications for Microsoft Windows 2000

June 25th, 1999

Outline

- Purpose
- Definitions
- Background
- DISA use of Application Specifications
- Recommendations
- Follow Up Actions

Purpose:

- To discuss Defense Information Infrastructure Common Operating Environment (DII COE) use of the Application Specifications for Microsoft Windows 2000

Definitions

- **Segment:** *A collection of one or more software and/or data units most conveniently managed as a unit of functionality.*
  - Segments are defined from the perspective of an operator, not a developer, and are generally defined to keep related units together so that functionality may be easily included or excluded. They are usually defined as functional pieces (e.g., a word processor) that make sense from a system administrator perspective because segments are the lowest level components that can be installed on, or removed from, a platform
- **Segmentation:** *The engineering process of decomposing system components into segments and creating the appropriate segment descriptor files.*
  - Proper segmentation is vital to a good system design and affects how well the component will operate in the resulting system.

Background

What is the DII COE Trying to Achieve?

- **Encourage and Facilitate Software Reuse**
  - Reduce development cost to DOD
  - Accelerate delivery schedules
  - Reduce developer/operator training
  - Simplify and unify system installation tools/approach
  - Assume Heterogeneous Environment
  - Distribute system development across the community, not to a single developer.
    - Developers build components, not the system.
    - DOD is the system integrator, not the developer.
    - Eliminate “single provider” Issues

Background

What is the DII COE Trying to Achieve?

- **Reduce System Integration Effort**
  - Push integration tasks down to original developer as much as feasible
  - Developers “self-describe” applications to declare resources required.
    - Resources are automatically arbitrated by the COE to avoid/detect/prevent conflicts.
    - Resources include OS resources as well as services provided by other applications.
  - Detect/Report/Resolve Resource Conflicts at All Stages
    - Development time
    - Integration time
    - Site Installation time
  - Automate Integration to the Extent Possible

Background

What is the DII COE Trying to Achieve?

- **Achieve True System Interoperability**
  - Standards alone are insufficient.
    - Differing interpretations and implementations
  - Interoperability encompasses both primitive data exchange and higher level information exchange
  - Usually more important to "get the same answer" than "which answer is correct."
  - Presenting the decision maker with conflicting views of the battlefield increases, not decreases, information overload, confusion, and indecision.
  - Modern warfare is Joint, not single service (Navy, Marine, Air Force, Army) nor single mission (logistics, C2, transportation, medical, financial)

Background

What is the DII COE Trying to Achieve?

- **System vs. Application-Centric View**
  - System spans LAN/WAN/MAN, individual computers, and applications
  - Decisions are based on overall system needs, not individual applications.
- **Plan for Technology Insertion**
  - Most systems are technologically obsolete before they are ever built, much less fielded.
  - Technology insertion must be incremental and allow for partial replacement of system components, not wholesale replacement of all components.
  - Technology insertion may occur before any development cycle stage is completed.
    - During development
    - During integration
    - During fielding (security patches, COTS patches, etc.)

DISA use of Application Specifications

- Goal - Use Windows NT and Windows 2000, without modification, as COE for Intel and Alpha based platforms
- Developers building segments for the COE use the appropriate Application Specification as the primary guidance document for:
  - Desktop applications
  - Distributed applications

Recommendations

Dependencies

- The COE concept requires the ability for segments to state dependencies upon other segments.
  - One segment may require that another segment also be loaded in order to operate.
  - One segment may require another segment, but the dependency is version-specific.

Recommendations

Conflicts

- The COE concept requires the ability for segments to state conflicts with other segments.
  - One segment may have a conflict with another segment so that both cannot be present in the system at the same time.
  - One segment may have a conflict with another, but the conflict may be version-specific.

Recommendations

Dependency & Conflict Details

Segment name[1]*: SegmentPrefix*[2]*:home dir*[3] *[:version*[4]*{:patch*[5]*}]*

- [1] ***Segment name*** = name of conflicting segment as determined by the ***SegName*** descriptor file.
- [2] ***SegmentPrefix*** = conflicting segment's segment prefix.
- [3] ***home dir*** = conflicting segment's home directory.
- [4] ***version*** = specific version of conflicting segment.
- [5] ***patch*** = specific patches of conflicting segment.
- {} = can list multiple versions by using keyword "or"

Recommendations

DLL Dependencies (DLL Hell)

- Windows 2000
  - Component sharing
  - Backwards compatibility
- Windows NT
  - Backfill component sharing

Recommendations

Shared Resources (LAN/WAN)

- Distributed segments that require shared resources for operation, if resource not available:
  - During installation
    - Stop installation
    - Install and configure for using resource anyway
  - During operation
    - Work off line
    - Exit segment

Recommendations

Self Contained

- Segments can not touch other segments
  - directories
  - files
  - registry entries

Recommendations

Previous requirements from *Designed for Microsoft Windows NT and Windows 98* are missing:

- OLE/COM/ActiveX
- TAPI/MAPI
- Tools
- Utilities

Recommendations

References

- Add general requirement to follow
  - Windows Guidelines for User Interface Design
  - Platform Software Developers Kit (SDK)

Follow Up Actions

- Areas agree on concept
  - Conduct detailed technical review
  - DISA NT Advisory Group work with Microsoft on specific wording changes for next Application Specifications
- Areas agree to disagree on concept
  - Provide guidance in COE Integration & Runtime Specification (I&RTS)

Current Status

- Developing implementation to recommendations for submittal to Microsoft